



April 2011

ROUNDTABLE

The Denver Radio Club Newsletter

Since 1917

PRESIDENT'S MESSAGE

By Robert White – K0RCW

This is my second article focusing on being of service to our community. I am excited to inform you that things are developing rapidly planning Field Day. Please join us at the South Restaurant, 3535 S. Huron, the 4th Wednesday evening of every month at 5:30 pm.

I am really pleased that Bob Zimprich - KB0BZZ has offered to step up to the role of Emergency Communication Coordinator. He's been a licensed ham since July, 2007 and holds a General class license. He's a volunteer with the Salvation Army, SATERN Coordinator and COML Intermountain division, active in ARES D-22 and D-24, a Denver PD DAREC Volunteer, and an ARRL Instructor and Examiner.

Bob has some big shoes to fill following in the footsteps of Oscar Hall - K0SSE, who for many years guided us in this position. We expect to honor Oscar at Field Day, June 25-26 (don't forget June 24th for cleanup) for his dedicated service. Charge those batteries!

Chatting with Bob, he shared with me his vision for this crucial, primary role of the DRC. He would like to establish a team of DRC members with identified skills, willing to assist our served agencies both from their QTHs and in the Field. I am sure many of you recall how two years ago DRC members served our community by manning an emergency station in Windsor after the catastrophic tornado that devastated that community.

You all have some homework to do to help the DRC fulfill this vision. He believes, as do I, that all DRC members should complete IS-100, IS-200, IS-700, and IS-800 to learn about the Incident Command System, the National Incident Management System, and the National Response Framework.

You will need to take these free FEMA courses so that when an emergency occurs, you will know how to properly interact and seamlessly integrate with our served agencies. They will greatly enhance your value to our served agencies and to our community.

Even if you have completed these courses, as I have, you should probably review the material again just as one would recertify in CPR training every couple of years.

Secondly, Bob proposes providing the EmComm DRC members with a DRC EmComm picture ID badge upon completion of a basic background check (DMV, Residence, Citizenship, and Criminal). I have committed to Bob that the board will review and act on such a proposal, so please comment to me at k0rcw@arrrl.net if you have questions or concerns during the formulation of the proposal.

Thirdly, Bob will maintain a database of volunteers with training certificates of the EmComm team members. This will be available on a thumb drive for served agencies requiring proof of training before the person is allowed to come on the active scene.

Fourthly, Bob will develop a presentation to encourage young adults to obtain their amateur license with a focus on participating in EmComm exercises.

Finally, he desires to promote CERT and other community based training among DRC members. Additionally, he would like for the team to pursue certifications in the community and participate in community drills and exercises. Let's all actively support Bob in his new role as DRC Emergency Coordinator.

73, See you at the next meeting.

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W0TX

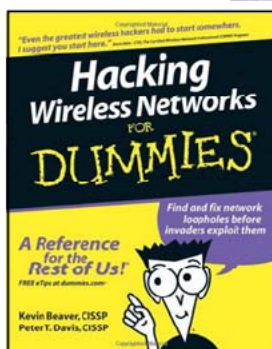
<http://www.w0tx.org>

MARCH MEETING - WHAT'D I MISS

By Bill – W6OAV

There was a great turn out for the meeting. Robert, K0RCW, started the meeting with introductions. Bryan, KB0A, followed with a reminder about the upcoming DRC Ham Fest. Bryan then introduced a new feature called "eRideShare" available on the club's website. See Bryan's article in this publication for more information.

The meeting was then turned over to the guest speaker Bill, W6OAV. Bill gave a Power Point presentation covering Wi-Fi security. He started out by asking "Why worry about Wi-Fi security?"



He then pointed out that hacking is so prevalent that there is even a "Dummies" book out!

Also, there is a free, and powerful, hacker's application on the internet called Firesheep. According to several computer magazines, it has been downloaded over a million times (that ought to scare a Wi-Fi user!)

After getting everyone's attention, Bill covered the following topics:

- Overview of how Wi-Fi works, giving a better understanding on why and how to perform the security tasks to be discussed.
- Overview of WEP, WPA and WPA2 and their weak and strong points.
- How to properly configure home Wi-Fi networks for best security and why.
- Security tips.
- Configuring laptops for secure hotspot operation.
- Hacker tricks (Monitoring, ARP attacks, Firesheep, etc.).
- Defeating hackers by being aware of their tricks and by using a Virtual Private Network (VPN).

After Bill's presentation, Doug, N4ATA, gave a live demonstration of setting up and using a VPN. As was discussed in Bill's presentation, using a VPN is about the only way to defeat hackers while using a hotspot Wi-Fi. *Look for an article later this summer highlighting Wi-Fi security.*

Bob, KB0BZZ, ended the meeting showing how to monitor current radiation levels in 8 locations across the U.S. See his article elsewhere in this publication covering his presentation.

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APRIL MEETING PRESENTATION

We have the honor of having a guest visiting from Florida as our speaker at the April DRC meeting. Ed Callaway, Ph.D., N4II, will discuss HF radio propagation – the physical phenomena that enable shortwave signals to travel around the world. Included will be the effects of the solar wind on the ionosphere and what causes daily, seasonal, and yearly changes in propagation.



Ed has been a ham since 1972, and is past President of the Motorola Amateur Radio Club and the South Florida DX Association. His major interests include DXing, HF propagation, and circuit design.

Professionally, after 25 years with Motorola, in 2009 he co-founded Sunrise Micro Devices, specializing in low-voltage, low-power wireless systems. Dr. Callaway is a Registered Professional Engineer (Florida), and has 44 issued U.S. patents. He is the author of *Wireless Sensor Networks: Architectures and Protocols* (CRC Press), and was recently named an IEEE Fellow, "for contributions to wireless sensor networks and low power design techniques for communications devices and systems."



Don't be an April Fool
Join the ARRL
Help protect your
Hobby!



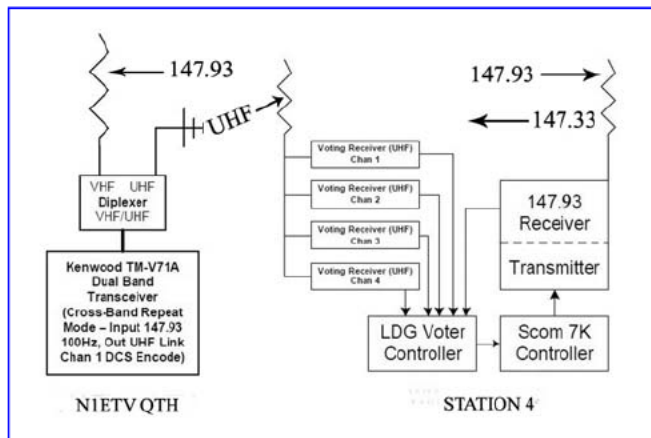
TECH COMMITTEE REPORT

By Bill – W6OAV

This month's meeting was devoted to discussing the plans for the 147.33 MHz voter system and the status of the DRC/SATERN station.

Voter System

The committee agreed on the configuration of the initial test system (Phase 1). Phase 1, shown in the graphic below is scheduled for completion by April 9th.



The following tasks are scheduled for completion before April 9th:

- Paul, WA2YZT, will build the necessary cables to interconnect the repeater, the voter controller and the control panel. He will also build a cable to interface the UHF link receiver to the voter controller.
- Bryan, KB0A, will order and test a Kenwood TM-V71A for the remote receiver site.
- Bryan and Lance, N1ETV, will install the TM-V71A at the remote VHF receiver site.
- On April 9th, Paul and Bryan will install the cables and the UHF link receiver. Alignment tests will then be completed with N1ETV.

DRC/SATURN Station

The DRC/SATERN station at 70th and Washington is now on the air. On March 19th Bob, KB0BZZ, Bill, N0LAJ and Bill, W6OAV met at the station. They completed the following tasks:

- Installed a Power Pole 12 volt power system for the HF and VHF/UHF transceivers.
- Checked the SWR on the HF, VHF/UHF and UHF business band antennas. The HF antenna needs to be fine tuned as all bands, except the 40 meter band, are resonant at the low end of each band.
- Developed the design for the NVIS antenna.
- Determined the installation steps required for the

completion of the lightning protection ground system.

Tested the antennas:

- Made several 17 and 20 meter contacts with Texas, California, and South Carolina.
- Made several local VHF and UHF contacts.

The following tasks still need to be completed:

- Purchase parts for, and build, the NVIS antenna.
- Install the business band antenna and run coax to the radio room.
- Setup the VHF packet system.
- Fine tune the HF antenna.

THE DRC/TSA STATION IS ON THE AIR!

By Bill – W6OAV

On March 19th, KB0BZZ, W6OAV and N0LAJ spent the afternoon completing the necessary tasks to put the station on the air. Successful HF contacts were made around the country on several bands. Good reports were also received on the VHF and UHF bands.



The station consists of a Yeasu FT-840 HF rig, a Yeasu 8900R VHF/UHF rig and a Kenwood TM-261 VHF rig for packet.

The antenna system consists of two Comet VHF/UHF verticals and an R7 HF multiband vertical.

There are still a few tasks to be performed to complete the station installation. See this month's Tech Committee Report elsewhere in this publication for details.



CITIZEN RADIATION MONITORING & HAM RADIO

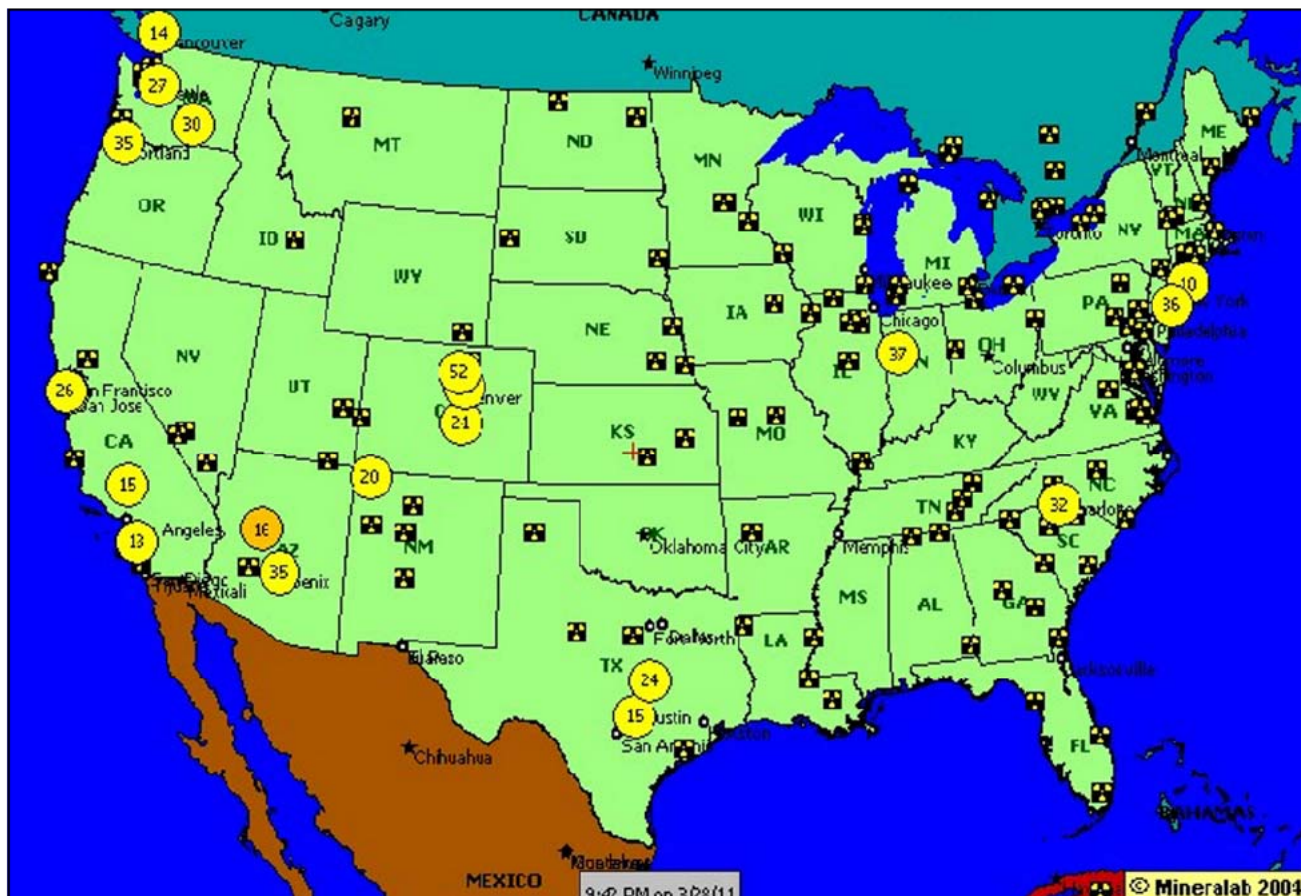
By Bob Z –KB0BZZ

As a member of Colorado ARES D22, Arapahoe County, we provided onsite support of several RTD Light Rail stations during the DNC Convention in 2008. As we were attending various briefings leading up to the convention, it became clear to me that one of the real worries of the authorities was the use of a dirty bomb.

In researching them, I found that the effective safe radius is about 10 miles which coincided with my distance from downtown Denver. I decided to get a Geiger-counter and fortunately came across a company called Mineralab, www.mineralab.com, in Prescott, Arizona. Not only did they sell the instruments, they also sold a software program that allowed citizen monitoring stations to connect to each other nationwide and display real-time readings.

That began my interest in maintaining a citizen radiation monitoring station. In my case, I use an "Inspector Plus" Geiger-counter which has a data port to connect to my laptop and then the Internet. With the arriving plume(s) of radioactive isotopes and irradiated water droplets and dust particles, hopefully, the handful of citizen stations will play a role in providing unbiased, uncensored, real-time readings along the West Coast and beyond.

I urge you to visit the free website to see the stations and their readings at www.radiationnetwork.com. The webpage refreshes every 3 minutes. See website screen grab below.




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RemREMEMBER WHEN?

By Bill – W6OAV

The purpose of this article is to let the newer hams know what ham radio was like in the late 50s and early 60s and to bring back memories to the older hams like me.

In today's environment, drivers have to look out for other drivers who are distracted while on their cell phones or texting. In the late 50s drivers had to be aware of hams who were doing some interesting things while they were driving. How would you like to be in a car in front of the mobile ham shown in the ad? (Below Left)



NOW change Bands while DRIVING

NEW... Bassett Mobile Antenna

10 • 11 • 15 • 20 • 40 • 75 METERS

Puts 6 Band Operation at Your Fingertips!

Just Turn The Knob

Here is real convenience in a mobile antenna that mounts within easy reach on fender, giving you instant change to all mobile bands without stopping or getting out of your car. You simply flip frequency change control to the desired band. Coverage is from 3.5 Mgc. to 30 Mgc. adjustable while in motion. Streamlined plastic "teardrop" houses all components; provides low wind resistance, actually enhances appearance of vehicle.

EASILY MOUNTED—The Bassett Model ATR-6B Mobile Antenna comes equipped with standard $\frac{3}{4}$ " threaded fittings for use with standard whip rods. Will handle 100 watts. Readily mounted anywhere on vehicle.

SEND FOR FOLDER AND NAME OF YOUR NEAREST JOBBER

Bassett made mobile antenna coils in the 50s. The coils were filled with helium which was an advertising gimmick since helium has no effect on coil efficiency. The problem with helium is that it will seep through most materials, so the "magic" was soon lost after the coils were purchased. The Bassett coils were not very popular because of stiff competition from other leading manufactures, such as Master Mobile, Hustler, E.F Johnson, etc.



BASSETT

Vacuum Antenna Coils
(PATENT PENDING)

FOR MOBILE and FIXED ANTENNAS

Extremely high "Q" super efficient air-wound loading coils housed in rugged transparent cases from which the air has been removed and replaced with pure helium. Impervious to rain, dust, dirt, and corrosion. Will raise antenna effectiveness of your mobile many times over the usual "run of the mill" low "Q" loading inductor. Engineered for use with your present 60" top rod and 36" bottom rod. Standard #24 threads. No pruning necessary regardless of antenna location on vehicle. Complete instructions supplied.

REX BASSETT, INC.
BASSETT BUILDING
FORT LAUDERDALE, FLORIDA

Models for the 75, 40, 20 and 15 meter bands and for Civil Air Patrol

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DRC TO PARTICIPATE IN SELF-RELIANCE EXPO

By Bryan –KB0A

The Denver Radio Club has been asked to be a presenter at the upcoming Self-Reliance Expo to be held April 8th & 9th at the National Western Complex in Denver. Our presence was requested so that we can showcase Amateur Radio communications capability during emergency situations. In addition, there will be Boy Scouts present who are working on their Communications Badges. Our club members will be assisting them by providing the opportunity to use Amateur Radio communications during the event. For details on the event, see their website at <http://www.selfrelianceexpo.com>.

RIDE SHARING RESOURCE AVAILABLE

By Bryan – KB0A

As gasoline prices rise, again, many members will be looking for ways to reduce, or share the cost of driving. To help those members we have provided a link to the web site erideshare.com. Within this site I have created a password protected group for Denver Radio Club members. You will find link and setup information on our website at <http://www.wotx.org/rideshare.htm>. The link to our eRideShare group is <http://drc.erideshare.com>. You must use the password **drcride** to access the group site. You will need to set up an account with eRideShare.com to post a listing, such as an offer to provide or request a ride. You just need the group password to view offers and requests. By default all listing are only available to the group. You can share the password with non-members who are interested in attending our meetings, but please do so judiciously.

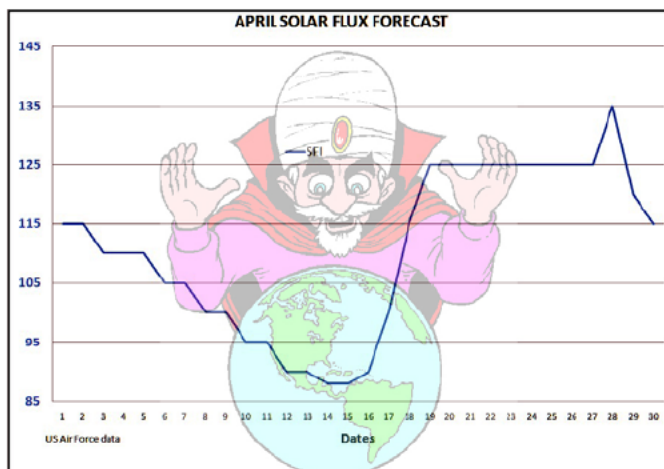
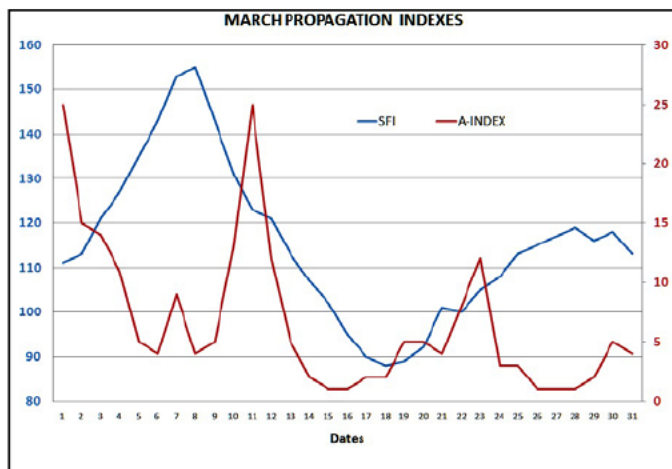
PAST & FUTURE PROPAGATION CONDITIONS

By Bill – W6OAV

This article provides two charts: the propagation conditions for last April and a forecast of next April's propagation conditions.

USING THE PROPAGATION INDEX CHART

Note two things on the chart: the trend of the SFI and A indexes and the date of largest SFI peak. The trend of the SFI shows the progress of the solar cycle during the past April. The SFI peak allows the rough forecasting of the reoccurrence of SFI peak in the next April. In order to "forecast" the next SFI peak, note the date when the SFI peak occurred and project out to about 28 days. Due to the sun's 28 day rotation, the SFI peak will often re-occur in about 28 days. The reason is because the sun spots causing the SFI peak move with the sun's rotation and face the earth every 28 days. This 28 day repetition will become more pronounced as the solar cycle improves. Refer to the September 2010 *Roundtable* for more complete information on the "SFI" and "A" indexes.



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UP COMING EVENTS

HAMfests

April 2 – Longmont ARC, LarcFest, Boulder County Fairgrounds Longmont, CO

July 16 – PPRAA Megafest, Lewis Palmer High School, Colorado Springs

June 25-26 – **ARRL Field Day** More info later

August 21 – DRC HAMfest, Jefferson County Fair Grounds

September 25 – Boulder Amateur Radio Club, BARCfest, Boulder County Fair Grounds, Longmont, CO

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SIREN TEST

By JIM – K0TOR

DRC will be supporting two siren tests this year.

The first will be for the City of Wheat Ridge and will be held on Wednesday, April 13th at 11:00 AM. I ask that you be on station by 10:30 AM so you can check in and have time to check out the siren site. Wheat Ridge has a total of 15 sirens this year. If you covered a Wheat Ridge siren last year we will be contacting you again this year. Pizza at the Wheat Ridge PD.

The second siren test will be for the City of Lakewood and will be held on Wednesday May 11th at 11:00 AM. Requested arrival time is the same, 10:30 AM. Lakewood has 25 sirens this year. If you covered a Lakewood siren last year we will be contacting you again this year. Pizza at the Lakewood Public Safety building.

If you did not participate in a siren test last year and would like to this year, please contact Jim Beall K0TOR at 303-798-2351. If I'm unavailable please leave me a message. We need additional radio operators to replace those who worked last year and are not available this year and we have four new sirens this year at Wheat Ridge and two new sirens at Lakewood. This is a great public service, a fun exercise and siren test and reporting is done by 11:30 AM. If you would like to help, please call.

APRIL 2011

DRC Net Sunday 8:30pm Local

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 DON'T BE A FOOL!	2 LARCfest
3 New Moon	4	5	6 Learning Net 7pm	7	8	9
10	11 First Quarter	12	13 Learning Net 7pm	14	15 	16
17 Rookie Roundup (SSB) Starts 1800U Ends 2359U	18 Full Moon	19	20 DRC Meeting Elmer 6:30pm General 7:30pm	21	22 	23
24 Easter Sunday 	25 Last Quarter	26	27 Learning Net 7pm	28	29 	30

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DRC REPEATERS

BAND	Freq / Shift / PL Tone	Additional Information
10m	29.620mHz (-100kHz) FM	Not In Service
6m	53.090mHz (-1mHz)	
Packet	145.05mHz<>14.105mHz	
2m	145.490mHz (-) 100Hz PL	Linked to the 70cm - 448.625mHz machine.
2m	147.330mHz (-) 100Hz PL	Local Area, Members Auto-Patch Does Not TX a PL!
2m	147.330mHz (-) 131.8Hz PL	NE Area Remote Does Not TX a PL!
1.25m	224.380mHz (-) 100Hz PL	
70cm	448.625mHz (-) 100Hz PL	Linked to the 2m - 145.490mHz machine.
70cm	449.350mHz (-) 100Hz PL	Wide area coverage with Echolink Node # 4140.

EDITOR'S NOTE

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DRC members - this is your newsletter. If there is something which is club or amateur radio related that you'd like to see as a regular feature, email suggestions to the editor. Members are the heart and sole of The Denver Radio Club, if you have an expertise or an interest in a particular segment of ham radio that you'd like to write about, you may email your submissions to AG0S@arrl.net. Submission deadline is the 25th of the April. Editor